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PLUTONIUM CONTAMINATION TWENTY YEARS AFTER THE NUCLEAR WEAPONS ACCIDENT IN SPAIN.

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In January, 1966, a USAF B-52 bomber carrying four nuclear weapons collided with a KC-135 tanker over SE Spain. The parachutes of two bombs did not deploy causing non-nuclear detonation and burning of fissile material at impact. A joint US-Spain effort resulted in the establishment of clean up levels, removal of contaminated soil to the US and an assessment of the residual contamination on the environment and people. Four air sampling stations, six study plots for obtaining soil and plant samples, and protocols for follow-up studies of human subjects were established.

Only rarely are edible portions of food crops found to contain Pu. These levels are usually low as compared to naturally occurring alpha-emitting radionuclides. Wild vegetation can collect Pu to considerably higher levels in some locations. Residual Pu in soil is variable because of initial concentration and aggregation with iron and carbonate compounds; it tends to be more homogeneously distributed in farmed areas. Air concentrations are highest in arid areas where residual contamination was highest. Calculated doses for chronically exposed people in these areas are small. Chest burdens of Pu for about 600 individuals are below the detector's minimum detectable level of about 20 nCi. Bioassay data are difficult to interpret because of the small number of measurements on any individual, the relative rarity of values above the detection limit of the measurement system and the assumptions in the metabolic models used.

Tom, the attached abstract was submitted by Dr. Richmond for the 8th International Congress of Radiation Research meeting to be held in Edinburgh, Scotland, July 1987.

He wanted to send you a copy.

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